09/981639 C of C

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313 on June 7, 2006.

Doran R. Pace, Patent Attorney

REQUEST FOR CERTIFICATE OF CORRECTION UNDER 37 CFR 1.322
Docket No. MOR-100D2
Patent No. 7,015,034

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	Michael J.P. Lawman, Patricia Lawman
Issued	:	March 31, 2006
Patent No.	:	7,015,034
For	:	Materials and Procedures for the Purification of Cells

Mail Stop Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CERTIFICATE OF CORRECTION
UNDER 37 CFR 1.322 (OFFICE MISTAKE)

Sir:

A Certificate of Correction (in duplicate) for the above-identified patent has been prepared and is attached hereto.

In the left-hand column below is the column and line number where errors occurred in the patent. In the right-hand column is the page and line number in the application where the correct information appears.

Patent Reads:	**Application Reads:**
Column 11, line 28	Page 17, line 25
"anti-CD 19"	-- anti-CD19 --

Column 16, line 52	Amendment dated June 28, 2005, page 2, claim 15, line 3
"CD11"	-- CD11b --
Column 16, line 56	Amendment dated June 28, 2005, page 2, claim 16, line 2
"iminunopolymer"	-- immunopolymer --
Column 16, line 58	Amendment dated June 28, 2005, page 2, claim 17, line 1
"matrix a according to"	-- matrix according to --
Column 16, line 61	Amendment dated June 28, 2005, page 3, claim 18, line 1
"matrix a according to"	-- matrix according to --

A true and correct copy of page 17 of the specification as filed and a true and correct copy of the Amendment under 37 CFR 1.111 dated June 28, 2005, which support Applicants' assertion of the errors on the part of the Patent Office accompanies this Certificate of Correction.

Approval of the Certificate of Correction is respectfully requested.

Respectfully submitted,

Doran R. Pace
Patent Attorney
Registration No. 38,261
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Address: P.O. Box 142950
Gainesville, FL 32614-2950

DRP/kmm

Attachments: Copy of page 17 of the specification;
Copy of the Amendment under 37 CFR 1.111 dated June 28, 2005

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,015,034

DATED : March 21, 2006

INVENTORS : Michael J.P. Lawman, Patricia Lawman

It is certified that errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 11,
Line 28, "anti-CD 19" should read -- anti-CD19 --.

Column 16,
Line 52, "CD11" should read -- CD11b --.

Column 16,
Line 56, "iminunopolymer" should read -- immunopolymer --.

Column 16,
Line 58, "matrix a according to" should read -- matrix according to --.

Column 16,
Line 61, "matrix a according to" should read -- matrix according to --.

MAILING ADDRESS OF SENDER:
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FORM PTO-1050 (REV. 3-75) UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,015,034

DATED : March 21, 2006

INVENTORS : Michael J.P. Lawman, Patricia Lawman

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Column 11,
Line 28, "anti-CD 19" should read -- anti-CD19 --.

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Column 16,
Line 58, "matrix a according to" should read -- matrix according to --.

Column 16,
Line 61, "matrix a according to" should read -- matrix according to --.

MAILING ADDRESS OF SENDER:
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FORM PTO-1050 (REV. 3-75) UNITED STATES PATENT AND TRADEMARK OFFICE

Example 4 – Specificity of Binding

To test the specificity of interaction between cells and conductive immunopolymers, antibodies with two different specificities (anti-CD19 and anti-CD34) were incorporated into separate membranes. These immunopolymers specific for CD34 or CD19 were tested for their ability to specifically bind to $CD34^+$ or $CD19^+$ cells.

The ML-1 cell line were used as a source $CD34^+$, $CD19^-$ cells. Wilkinsons cells, a B-cell lymphoma clinical isolate from a bone marrow aspirate, were used as a source of $CD34^-$, $CD19^+$ cells. CB-1 cells, a primitive neuro-ectodermal tumor line, were used as source of $CD34^-$, $CD19^-$ cells. ML-1, Wilkinsons and CB-1 cells were grown in Iscove's modified Dulbecco's medium (IMDM) supplemented with 10% fetal bovine serum (FBS) and antibiotics (50 U/ml penicillin and 50 U/ml streptomycin). Cells were grown to confluence, then harvested by centrifugation, washed and resuspended at a concentration of 10^5 cells/ml.

The antibodies used were anti-CD34 monoclonal antibody (HPCA-1, supplied at 50 µg/ml in phosphate buffered saline with gelatin and 0.1% sodium azide, Becton Dickinson, CA), and anti-CD19 monoclonal antibody (Becton Dickinson, CA).

A naphthalene-doped polypyrrole was used to assess binding specificity. The following solutions were combined into a 50 ml beaker:

20 ml of a 0.08 M aqueous solution of 2-naphthalene sulfonate (pH 2.0)

1.5 ml of freshly distilled pyrrole (0.2 M final concentration)

various masses of anti CD34 antibody (0, 5, 10, and 20 µg).

Naphthalene and pyrrole were thoroughly mixed for 1 minute, then the magnetic stirrer was switched off and the polymerization was initiated using a current of 1.6 V for 30 seconds followed by 1.0 V for 10 minutes. Polypyrrole membranes containing anti-CD34 or anti-CD19 or no antibody were prepared. After polymerization, the newly formed membranes were removed from the chamber, washed with IMDM and transferred into wells of 6-well culture plates containing 3 ml of complete medium each.

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office on June 28, 2005.

Doran R. Pace, Patent Attorney

AMENDMENT UNDER 37 CFR §1.111
Examining Group 1644
Patent Application
Docket No. MOR-100D2
Serial No. 09/981,639

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner	:	David A. Saunders
Art Unit	:	1644
Applicants	:	Michael J.P. Lawman, Patricia Lawman
Serial No.	:	09/981,639
Filed	:	October 17, 2001
Conf. No.	:	8705
For	:	Materials and Procedures for the Purification of Cells

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

AMENDMENT UNDER 37 CFR §1.111

Sir:

In response to the Office Action dated May 25, 2005, please amend the above-identified patent application as follows:

In the Claims

1-13 (canceled)

14 (previously presented). A conductive immunopolymer matrix comprising:

a) a first immunopolymer layer comprising a polyheteroaromatic polymer and an Fc receptor entrapped within said polymer, wherein a first antibody is bound to said Fc receptor in said first polymer; and

b) a second immunopolymer layer comprising a polyheteroaromatic polymer and an Fc receptor entrapped within said polymer, wherein a second antibody is bound to said Fc receptor in said second polymer and said second antibody binds to a determinant or antigen that said first antibody does not bind; and

wherein said first and second immunopolymer layers further comprise a cell monitoring system, wherein said cell monitoring system comprises horseradish peroxidase and glucose oxidase entrapped within said first and second immunopolymers.

15 (previously presented). The conductive immunopolymer matrix according to claim 14, wherein said antibody bound to said Fc receptor of said first immunopolymer layer binds to a CD3, CD4, CD7, CD8, CD10, CD11b, CD14, CD19, CD20, or CD33 determinant.

16 (previously presented). The conductive immunopolymer matrix according to claim 14, wherein said antibody bound to said Fc receptor of said second immunopolymer layer binds to a CD34 determinant.

17 (previously presented). The conductive immunopolymer matrix according to claim 14, wherein said polyheteroaromatic polymer is an alkyl substituted polythiophene or a polypyrrole.

18 (previously presented). The conductive immunopolymer matrix according to claim 14, wherein said polyheteroaromatic polymer is a naphthalene sulfonate-doped polypyrrole or a p-toluene sulfonate-doped polypyrrole.

19 (previously presented). The conductive immunopolymer matrix according to claim 14, wherein said polyheteroaromatic polymer has a net negative charge at the surface of said polymer.

20 (previously presented). The conductive immunopolymer matrix according to claim 14, wherein said conductive immunopolymer matrix is provided in a capillary, spiral sheet, or parallel sheet.

21-22 (canceled).

23 (previously presented). The conductive immunopolymer matrix according to claim 14, wherein said first and second immunopolymer layers are sequentially oriented with respect to each other.

24-25 (canceled).

26 (previously presented). A conductive immunopolymer matrix comprising:

a) a first immunopolymer layer comprising a polyphenol polymer and an Fc receptor entrapped within said polymer, wherein a first antibody is bound to said Fc receptor in said first polymer; and

b) a second immunopolymer layer comprising a polyphenol polymer and an Fc receptor entrapped within said polymer, wherein a second antibody is bound to said Fc receptor in said second polymer and said second antibody binds to a determinant or antigen that said first antibody does not bind; and

wherein said first and second immunopolymer layers further comprise a cell monitoring system, wherein said cell monitoring system comprises horseradish peroxidase and glucose oxidase entrapped within said first and second immunopolymers.

27 (previously presented). The conductive immunopolymer matrix according to claim 26, wherein said antibody bound to said Fc receptor of said first immunopolymer layer binds to a CD3, CD4, CD7, CD8, CD10, CD11b, CD14, CD19, CD20, or CD33 determinant.

28 (previously presented). The conductive immunopolymer matrix according to claim 26, wherein said antibody bound to said Fc receptor of said second immunopolymer layer binds to a CD34 determinant.

29 (canceled).

30 (previously presented). The conductive immunopolymer matrix according to claim 26, wherein said polyphenol polymer has a net negative charge at the surface of said polymer.

31 (previously presented). The conductive immunopolymer matrix according to claim 26, wherein said conductive immunopolymer matrix is provided in a capillary, spiral sheet, or parallel sheet.

32-33 (canceled).

34 (previously presented). The conductive immunopolymer matrix according to claim 26, wherein said first and second immunopolymer layers are sequentially oriented with respect to each other.

35-36 (canceled).

37 (previously presented). A conductive immunopolymer matrix comprising a polymer and a molecule having binding specificity for a target molecule, wherein said polymer comprises a polyphenol polymer, and wherein said molecule having binding specificity for a target molecule is an Fc receptor and is entrapped within said polymer.

38 (canceled).

39 (previously presented). The conductive immunopolymer matrix according to claim 37, wherein an antibody is bound to said Fc receptor.

40 (previously presented). The conductive immunopolymer matrix according to claim 37, wherein said polyphenol polymer has a net negative charge at the surface of said polymer.

41 (previously presented). The conductive immunopolymer matrix according to claim 39, wherein said antibody binds to a CD34 determinant.

42 (previously presented). The conductive immunopolymer matrix according to claim 39, wherein said antibody binds to a CD3, CD4, CD7, CD8, CD10, CD11b, CD14, CD19, CD20, or CD33 determinant.

43 (previously presented). The conductive immunopolymer matrix according to claim 37, wherein said conductive immunopolymer matrix is provided in a capillary, spiral sheet, or parallel sheet.

44 (previously presented). The conductive immunopolymer matrix according to claim 37, wherein said conductive immunopolymer matrix further comprises a cell monitoring system, wherein said cell monitoring system comprises horseradish peroxidase and glucose oxidase entrapped within said polymer.

45 (previously presented). The conductive immunopolymer matrix according to claim 37, wherein said conductive immunopolymer matrix comprises multiple layers of said polymer, and wherein a different antibody is bound to said Fc receptor in each of said layers.

46-59 (canceled).

Remarks

Claims 14-21, 23-28, 30-32, 34-37, 39-46, and 48-58 are pending in the subject application. Applicants gratefully acknowledge the Examiner's withdrawal of certain of the rejections under 35 USC §112, first paragraph, and the rejection under 35 USC §102(b) (over Wallace *et al.*). The Examiner has indicated in the instant application that claims 14-20, 23, 26-28, 30, 31, 34, 37, and 39-45 are allowed. By this Amendment, Applicants have canceled claims 21, 24, 25, 32, 35, 36, 46, and 48-58. Entry and consideration of the amendments presented herein is respectfully requested. Accordingly, claims 14-20, 23, 26-28, 30, 31, 34, 37, and 39-45 are currently before the Examiner.

Claims 21, 24, 25, 32, 35, 36, 46, and 48-58 are rejected under 35 USC §112, first paragraph, on the grounds that they contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The Examiner's reasons for rejection are set forth at pages 3-6 of the Office Action. Applicants respectfully assert that there is adequate written description in the subject specification to convey to the ordinarily skilled artisan that they had possession of the claimed invention and maintain their reasons as set forth in the Amendment dated February 14, 2005. However, in order to expedite prosecution of the subject application to allowance, Applicants have canceled claims 21, 24, 25, 32, 35, 36, 46, and 48-58, thereby rendering the rejections of those claims moot. Thus, the only claims remaining in the subject application are allowed claims 14-20, 23, 26-28, 30, 31, 34, 37, and 39-45. Accordingly, reconsideration and withdrawal of the rejections under 35 USC §112, first paragraph, is respectfully requested.

It should be understood that the amendments presented herein have been made solely to expedite prosecution of the subject application to completion and should not be construed as an indication of Applicants' agreement with or acquiescence in the Examiner's position.

In view of the foregoing remarks and amendments to the claims, Applicants believe that the subject application is in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

Applicants invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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